

ASSEMBLY SELECT  
COMMITTEE

# Sea-Level Rise and the California Economy

December 3, 2019





# A Bold New Vision





# 5 Big Moves

## NEXT OS

Enabling technology

## COMPLETE CORRIDORS

Backbone of the system

## FLEXIBLE FLEETS

Last mile options

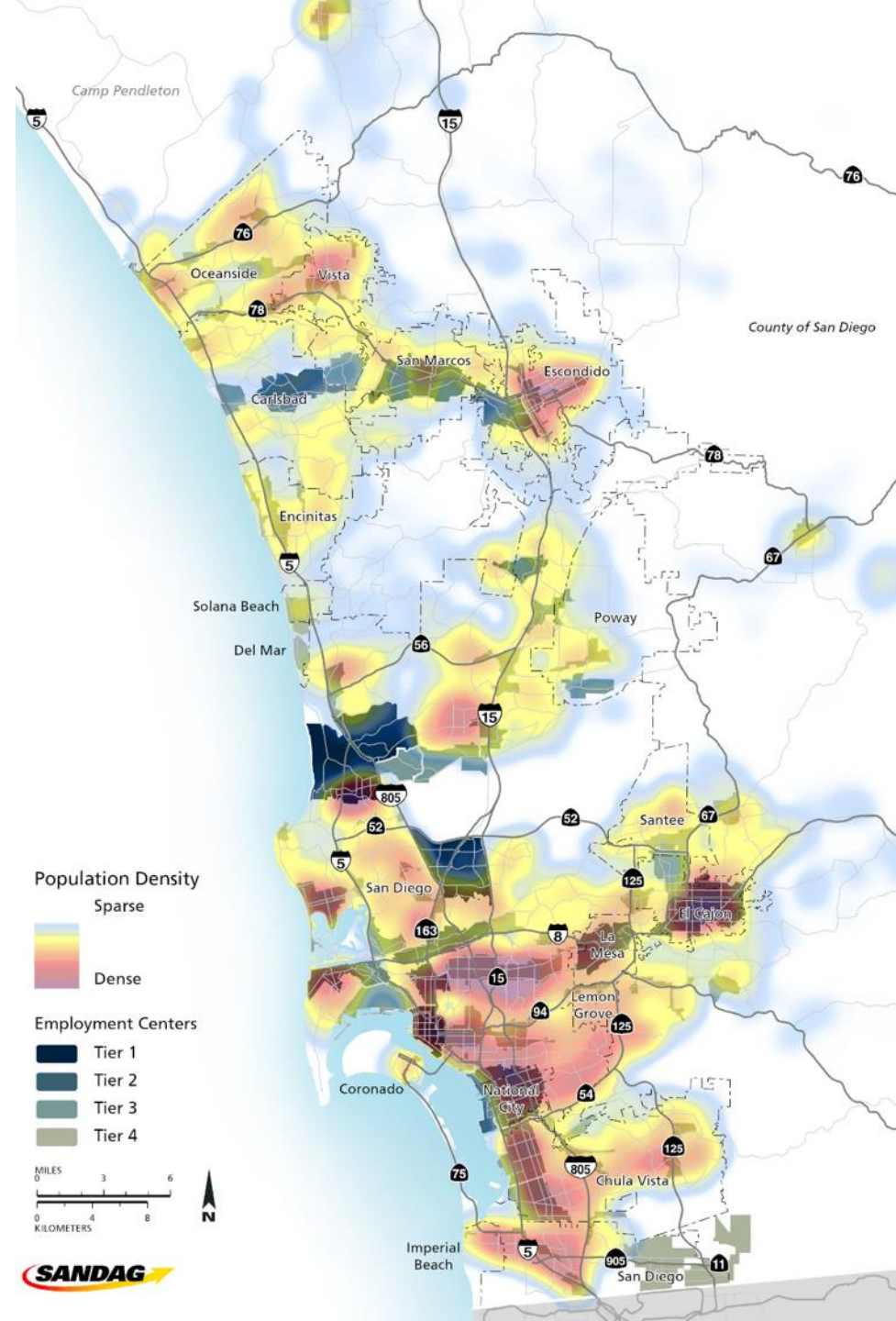
## TRANSIT LEAP

Alternatives to automobiles

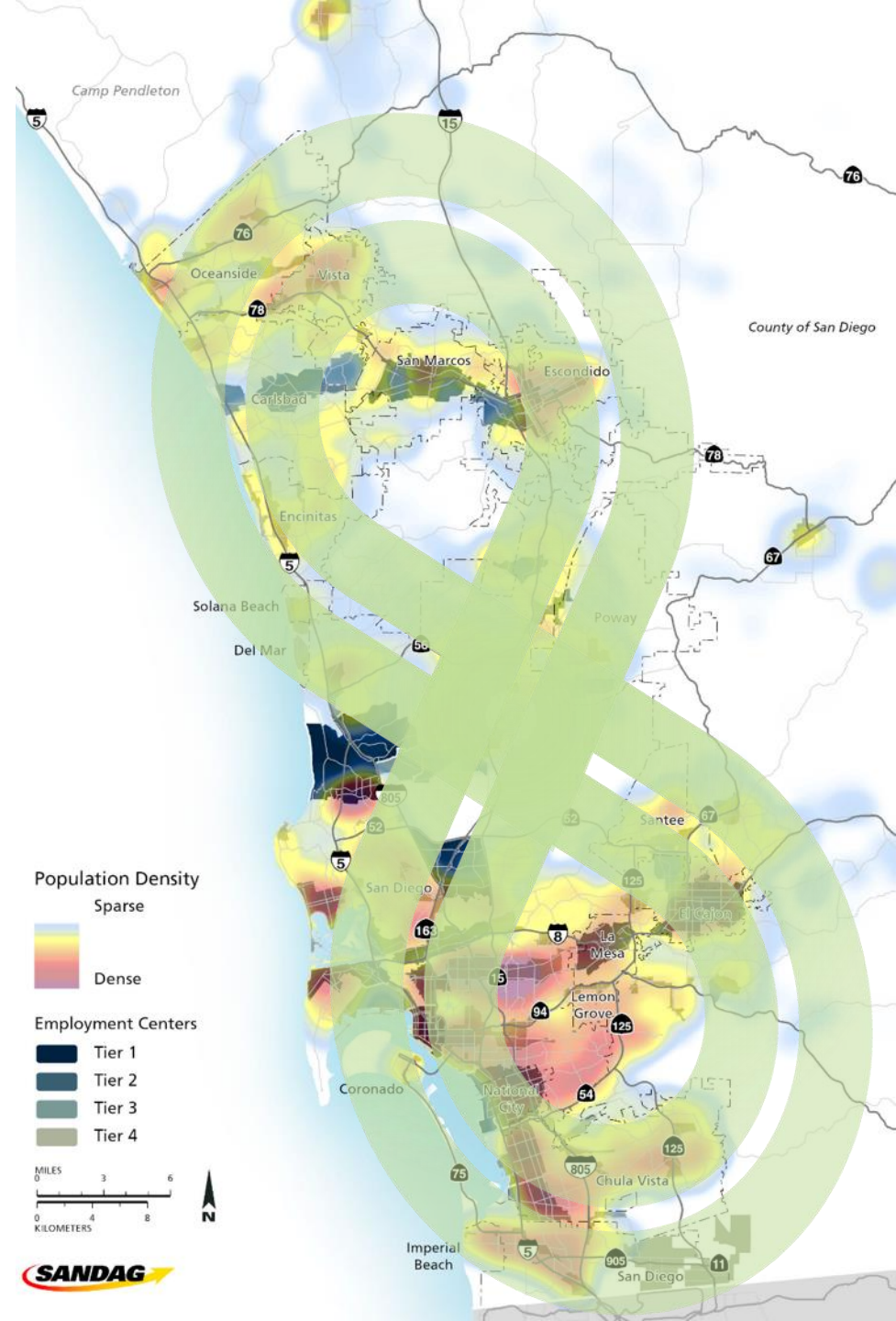
## MOBILITY HUBS

Transfer points

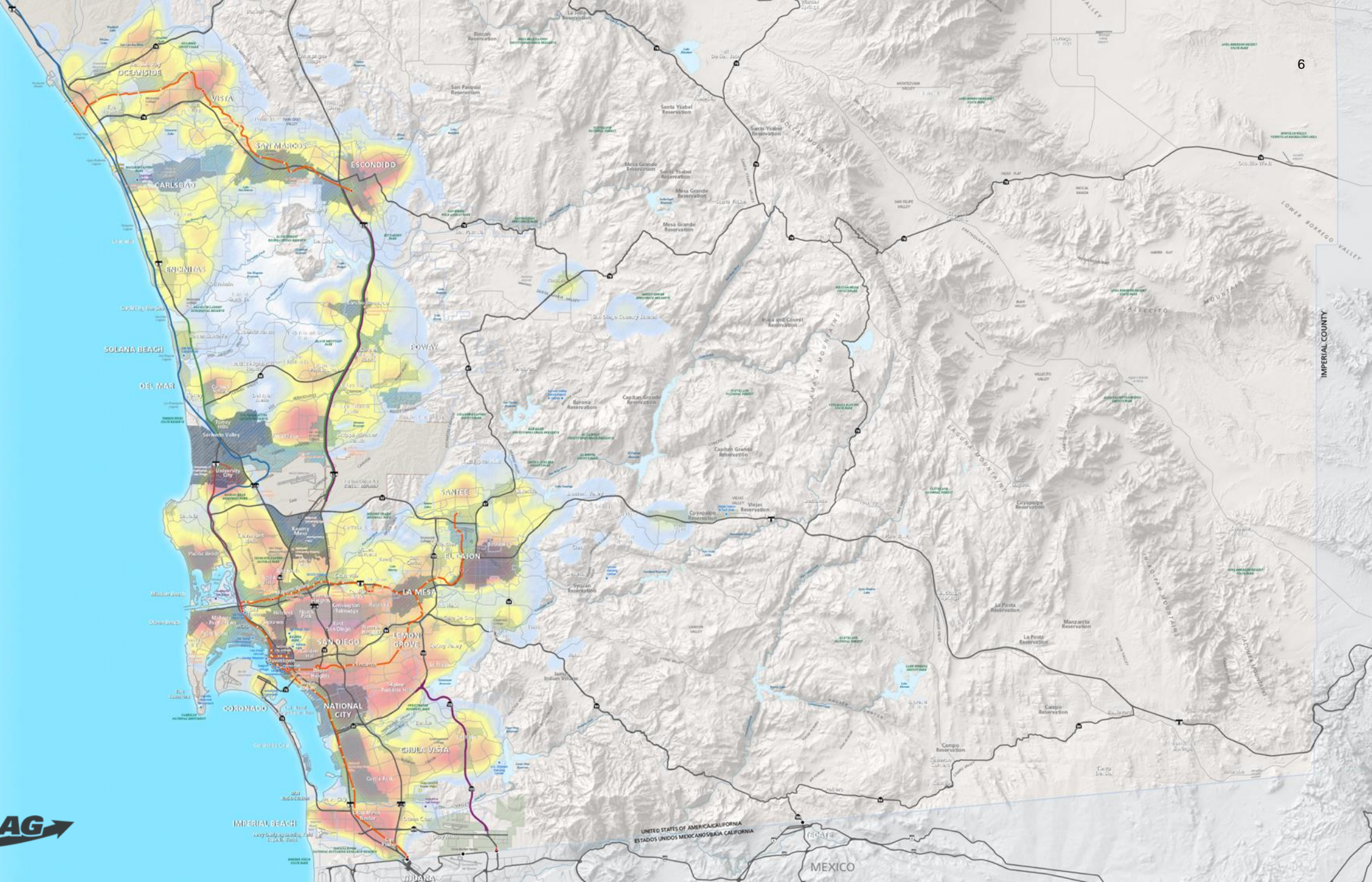
# Where people live and work



# Foundation for a Bold New Vision







IMPERIAL COUNTY

UNITED STATES OF AMERICA/CALIFORNIA  
ESTADOS UNIDOS MEXICANOS/BAJA CALIFORNIA  
MEXICO



# Resilience for Existing and Future Conditions





# Resilience for Existing and Future Conditions





# South SD County – 2.5 ft SLR



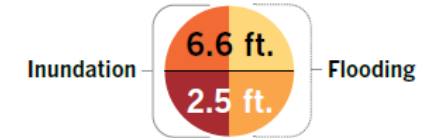


# South SD County – 6.6 ft SLR





KEY (Feet of Sea Level Rise)



# Possible Adaptation Strategies



## SC Ocean Beach Bike Path

Potential adaptation strategies for these assets are adapted from State guidance and include the following:

- Levees or raised revetment
- Elevate on boardwalk
- Relocate bike path inland

## SC North Harbor Drive Bike Path ▲

### SC Embarcadero Bike Path ▲

The Embarcadero Bike Path and N Harbor Drive Bike Path will be among the first land-based assets flooded in downtown City of San Diego and will likely be part of city-wide adaptation planning. Potential adaptation strategies for these assets are adapted from State guidance and include the following.

- Raised seawall/bulkhead to keep water out
- Bike path elevated with fill, essentially creating a levee
- Relocate bike path away from waterfront

## R Coastal Rail Trail at Downtown

### R Railroad at Downtown

### R Green Line Trolley at Downtown

### R Orange Line Trolley at Downtown

### R Blue Line Trolley at Downtown

### R Blue Line Trolley at North National City

Blue Line, Orange Line, and Green Line Trolley flooding is anticipated to occur simultaneously with or after flooding of other critical infrastructure. The Railroad and Coastal Rail Trail will also be impacted in downtown San Diego.

Adaptation strategies for transportation facilities in this area, therefore, will likely be part of a greater coordination and sea level rise planning effort amongst several jurisdictions and agencies.

## SC Sweetwater Loop & River Trail

The vulnerability for this trail stems from the low-point under I-5. Due to the infeasibility of raising I-5 in order to raise the trail, the Sweetwater Loop trail could be maintained as a floodable asset.

Potential adaptation strategies for this assets are adapted from State guidance and include the following:

- Separate trail from river with flood-proof wall
- Elevate above I-5
- Relocate inland

## L SC SR-75

Potential strategies for Imperial Beach:

- Elevate SR-75
- Armoring Imperial Beach coastline
- Phased relocation/retreat
- Sand nourishment
- Hybrid dune and cobble
- Five groins with sand nourishment

Potential strategies for Coronado adapted from State guidance:

- Seawall, revetment, vegetated sand dune, beach nourishment
- Stormwater management best management practices, elevate trail on boardwalk
- Relocate trail to the roadside

## L SC Bayshore Bikeway

Potential strategies for Imperial Beach:

- Elevate critical roads including the Bayshore bike path.
- Incrementally elevate the streets through regular resurfacing.



# LOSSAN

- Second busiest intercity corridor in the nation
- 8 million passengers per year
- 30,000+ freight cars per year
- About \$1 billion of goods moved
- Federally designated route for defense access





# LOSSAN





# LOSSAN





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